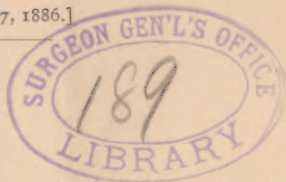


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A CONTRIBUTION
TO
THE STUDY OF HAY FEVER¹
(SO-CALLED).

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THE pendulum never swings in one direction too far, unless it goes out of the way in the opposite direction almost to an equal extent. As applied to our appreciation of the real nature and correct treatment of so-called hay fever, this statement is specially illustrative, and as true as any dogmatic affirmation can be in matters medical.

Not very long ago, scarcely anyone thought of a different etiology of the painful periodic paroxysmal attacks of sneezing, coughing, and dyspnoea characterizing this disease from that which inheres in the vitalized pollen granule of flowering plants and grasses. At present this external irritant is regarded by the most advanced workers in rhinology merely as one of many local excitants, and among these as possibly by no means the most active. Changes of temperature, of light, of winds, of electricity and

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barometric pressure, are said equally to hold a determining influence in bringing on these attacks. Yet none of these external agents is sufficient to produce hay fever, unless there also be present a highly excitable vasomotor centre. This nervous centre may have become diseased primarily, so that the slightest direct or reflected irritation, whether it be from an external agent, bodily disease, or psychical impression, may be sufficient to render it unduly excitable, and thus give rise to the combined symptoms of hay fever. Numerous experts, however, have now come to regard the main source of this disease as being in the nasal fossæ. Normally, as we know, these passages are irritable; but this degree of sensitiveness is inadequate to cause attacks of hay fever, something more is required. There should be at least a hyperæsthetic condition of the pituitary membrane, or marked morbid changes under or about it should be present. From this standpoint, the whole category of nasal affections has been gone through with before one has finished counting proximate causes of hay fever. This ultra view would not be so objectionable were it not that the immediate consequences to *noses* are disastrous. Everyone is seized with an inordinate desire to operate, and whenever hay fever victimizes a patient, a deviation of the septum, or the slightest turgescence of the turbinated bodies, is immediately shown to be the origin of the trouble, and forthwith radical measures are adopted to rid the patient of structures which are often in reality inoffensive. True it is, however, that an individual frequently does suffer from an intra-nasal condition, which at a given stage is undoubtedly a most important factor in the production of paroxysms of hay fever. Of this fact there can be no contention at the present time, if due consideration be given to the numerous and

convincing reports of competent observers. Yet, and perhaps more for this reason than another, it behooves every specialist to be watchful, and *not* willingly to admit that there is no hay fever, unless there be pronounced nasal disease, and that by nasal treatment *solely* this disease can always be obviated or arrested. Already I have seen more than one case which has convinced me how incomplete and erroneous such a view certainly is, and as a further study of this disease I would direct attention to the following facts and remarks:

First. A patient of mine who had had during several years repeated attacks of hay fever, accompanied by conjunctivitis, sneezing, asthma, etc., was affected last summer in a similar manner, about the same period as usual. After these annual attacks had subsided, and until the following year at the same date, my patient had no symptoms of nasal disorder, or of other bodily disease which predisposed her to hay fever, either by direct or reflex irritation. Upon reviewing her history carefully, her attacks were shown to be brought on on each occasion by rapid and considerable changes in the temperature and moisture of the ambient atmosphere.

Second. A gentleman is now under my care who has nearly complete occlusion of both nasal passages, evidently occasioned by hypertrophy of the turbinated bodies, and particularly of the posterior portions of the lower bodies. Until one year ago, and during many previous years, at which time his nasal passages were only partially obstructed by reason of hypertrophic enlargement of the turbinated bodies, there were annual attacks of hay fever. At present, when his nasal passages are almost impervious to air, a great portion of the time the hay fever attacks have entirely disappeared. If the sensitive area of J. H. Mackenzie were in this instance at fault—*i. e.*, the

posterior part of the septum and lower turbinated bodies—the attacks of hay fever would probably have persisted and not completely stopped as they have. If Harrison Allen's doctrine that occlusion of the nasal passages is the secret of such attacks can be sustained in many examples, in this one it proves to be insufficient at an advanced stage of the disease to explain the absence of an important series of symptoms. Add to the case referred to by me, two cases reported by Sommerbrodt, in which turbinated hypertrophy existed and the galvanocautery was applied locally in a thorough manner. Despite this operative procedure, the attacks of hay fever occurred with their usual severity.

Third. Nasal polyps may or may not be found in patients who are sufferers from hay fever. When they are present, their removal has frequently been followed by relief from painful recurring paroxysms of this disease. In a number of cases, one of which has come under my notice, the polyps were radically removed without, to any apparent degree, influencing advantageously the return of attacks of an analogous kind either as regards their intensity or frequency. In my case cough and dyspnoea at least were evidently more nearly dependent on a fibroid condition of the lungs and dilated air cells, than they were on a previous condition of nasal obstruction occasioned by polyps. Indeed, the case was really one of bronchitic asthma and emphysema, and not of hay fever. And here it is worth noting what I have certainly observed more than once, that sufferers from bronchitic asthma are also affected at times with a marked degree of nasal obstruction due to nasal catarrh, thickening of the septum, or some other morbid state of the nasal passages. The attack of asthma in these cases frequently begins in the nose and works its way downward until, within a few hours, the constant

sneezing, inability to draw air through the nose, watery congested conjunctiva, and contracted bronchi, accompanied by noisy stertorous respiration, approximate them closely with those who are true victims of hay fever. So far as mere symptoms of disease are concerned, how such cases can be distinctly separated from examples of hay fever, I should be unable to say. Of course, when an accurate physical examination is made, the intrapleural and pulmonary conditions are such that we are no longer permitted to doubt as to the true pathogeny of the disease we are called upon to treat. And in the treatment itself we also find verification of our diagnosis, since remedies which remain with little or no effect upon the thoracic dyspnoea of hay fever are of great utility in allaying this symptom even though considerable and chronic structural changes be shown to exist within the thorax. I am glad to note that a distinguished English authority, Sir Andrew Clarke, in the January number of the *American Journal of the Medical Sciences*, points to a view which I have for some time distinctly held—*i. e.*, the close relationship between these two forms of disease. In a series of propositions this author sets forth what he regards as the teaching of a study of hay fever, concerning the pathology of bronchial asthma, holding that it is a neuro-vascular trophic disease, and has its origin in a special vulnerability of the respiratory mucous membrane, of the respiratory nerve centres, and of certain portions of the sympathetic. So it is doubtless in just such instances that we should appreciate how uncertain, and even useless at times, mere local treatment of the nasal passages will become. Even the galvanocautery cannot be expected to reach the primary source of disease, as the "roots of special vulnerability" are in the bronchial tubes, not in the nose itself. My experience, I am much

gratified to find, is in accord with that of Da Costa (MEDICAL NEWS, March 9, 1885), Cohen (*American Journal of the Medical Sciences*, Jan. 1885, p. 309), and others. In severe cases of hay fever the asthmato-bronchitic manifestations are often unrelieved or but slightly modified by the local use of cocaine, despite the allaying of pruritus, or the *temporary* reduction, at times, of nasal intumescence.

Fourth. In the very large number of nasal affections which are seen in our clinics for treatment of this class of cases, the proportion of those who have had attacks of typical hay fever is relatively small. If this statement be admitted, and it cannot be seriously questioned by anyone who is really familiar with facts of this nature, it is obvious that the morbid intranasal condition is only efficient as a factor in producing hay fever when a predisposition exists which enables certain exciting agents to produce the malady in one class of persons, and yet entirely fails to produce it in others. Again, that these exciting agents are in a remarkable manner *specialized*, seems also proved, since emanations which in one person provoke a severe attack, produce in another, liable to hay fever, no sensible effect. The association of ideas may also awaken a paroxysm of vasomotor coryza, as we find an example in a case of "the production of so-called 'rose cold,' by means of an artificial rose," lately reported by Dr. John H. Mackenzie,¹ of Baltimore. In this, and other somewhat analogous cases, in order to produce such a result there must probably be "a deranged mental impressibility," in addition to an irritable condition of the turbinated bodies. Yet, despite these statements, it is now clearly determined, and widely recognized, by many careful, expert physicians that

¹ American Journal of the Medical Sciences, Jan. 1886, p. 57.

at or about a certain period of each year these attacks are sure to take place with some individuals, unless they have been submitted previously to suitable local treatment of their nasal passages. Even to this category, however, there are some exceptions, for, as it has already been stated, a few hay fever patients have proved to be wholly refractory to this local treatment, and their paroxysmal attacks have recurred as before, unless they have banished themselves for a time to a particular locality among the mountains, or at the seashore.

Of these two classes of sufferers, we can truly say, the first undoubtedly have nasal disease of some kind, and that the others are entirely free from it in any form, or are affected by it in such a way that we cannot determine its existence by our usual methods of examination. That the first class should be treated systematically for nasal disease is rational and judicious, and owing to wise treatment such benefit will frequently result that they are completely cured, so that they can expose themselves with absolute impunity to all causes which formerly occasioned their attacks. In the second class, continued or energetic treatment of the nose is irrational and should not be carried on, unless it can be reasonably shown that the nerves of the pituitary membrane may be morbidly altered despite our ability to affirm the change except through proper deduction from knowledge of the course and results of treatment in analogous affections of adjacent organs, the structure of which is not unlike. This being admitted, my explanation may now be offered: I do not believe that previous to the time of the attack of hay fever a *morbid intranasal condition*, recognizable by our explorative tests, is invariably present. Yet I am of the opinion that, even in these instances, morbid changes affecting the peripheral nerves may be responsible for the occur-

rence of symptoms of the disease. These morbid changes I assume to be in their nature *neuropathic*. They are probably inflammatory at times, and not less frequently are, doubtless, such as characterize atrophy of the nerves, or a thickening of their sheaths. I can appreciate the objections which will be immediately urged against this view. What proof have you? In reply I would say, I have just the same degree and kind of proof that I possess for the existence of many neural diseases elsewhere situated. Direct pathological proof, such as the microscope alone can ordinarily afford, I have not. But proof sufficient from the close study of the disease, belongs to me as to others. And this, in the interpretation of hay fever, must be for the while satisfactory, since it is all we have hitherto acquired. In the class of cases to which I refer we can appreciate how there may be hypersensitive areas distributed more or less widely over the pituitary membrane. These sensitive points may then be readily distinguished by contact with a probe or other foreign body. Inasmuch, however, as *irritable areas* cannot *invariably* be discovered in advance of an attack of hay fever (and this statement is the expression of my own clinical investigation), and other sufficient evidences of a determining intranasal causation of these paroxysms are not present (unless my view be adopted), it is logical to infer that if the nasal condition is really the efficient and primary cause of the attacks, it must be owing to an obscure neuropathy (translation of our ignorance) which merely renders the peripheral nerves sensitive to *special* irritants, and yet is only a functional disturbance. The symptomatic condition referred to is, moreover, not unlike one that often occurs in the pharynx, and which I interpret in nearly the same way that I explain some phenomena connected with hay fever.

At present, for example, an adult patient is under my care, in whom the sensation of pharyngeal pains is felt only during the time *cold* air is respired. Pressure, moderate in force, speech, song, deglutition, etc., do not occasion any unpleasant sensations whatever. It is to a certain degree appreciable, therefore, reasoning from analogy, that a paroxysm of hay fever may be induced by very many external irritants, which act primarily through contact with the pituitary membrane, although the proof we discover of nasal disease is limited to (1) the obvious effects of external agents of various kinds; (2) the results derived from the use of topical treatment. If this belief be accepted, it can be easily understood that, according to the cause of the attack and the nature of the peripheral nerve changes in the nose, either a local anæsthetic, like cocaine, an alterative, like iron, a mild chemical cauterizing agent, like carbolic acid (as I have elsewhere stated), or the galvanocautery may each or all prove sufficient to bring the attack to a rapid close, if it have already begun, or prevent its occurrence when applied in advance, and in view of the local conditions we are required to treat. The relative utility of the different local agents just mentioned will frequently depend on the nature and situation of the pathological changes in the nose, as well as on the degree to which, if any, they are accountable for the hay fever attacks. In this connection I would cite the judicious remarks of J. Solis Cohen, who, after alluding to the different means employed in removing morbid intranasal conditions, says, "Destruction, however, is not cure, and the production of unnecessary cicatrices may prepare the ground for less benign disease in the future. While instances of permanent relief by these methods are sufficiently numerous, the fact cannot be ignored that cases of *reported cure* are

sometimes compelled to seek treatment for recurrence. The choice between reliance upon a satisfactory palliative or resort to operative interference in the chance of permanent relief must be settled between patient and physician" (*American Journal of the Medical Sciences*, Jan. 1885, p. 310). I believe, however, that we have no agent so generally useful as the electrocautery in alleviating or curing cases of hay fever of nasal origin; yet there are cases, especially those of bony obstruction, to which it is altogether inapplicable. In view of a case of intense paroxysmal sneezing, which had lasted for several years, and was probably dependent on, and certainly allied with, a complete obstruction of one nasal passage, mainly by deviation of the cartilaginous septum, and because in this case I made a successful use of the galvanocautery, I am now disposed to include such cases among those occasionally suitable for this treatment. The galvanocautery is, of course, particularly indicated in all instances of considerable or complete occlusion occasioned by hypertrophy of the intranasal soft parts. While I commend the galvanocautery thoroughly in almost all *these* cases, and regard it as greatly preferable in ease of application and subsequent beneficial results to the use of the cold wire snare, I continue to believe that in less aggravated forms of obstructive disease, the hay fever paroxysms may be almost equally well treated by such means as pure carbolic acid or chromic acid. In favor of the primary trial of these agents may be mentioned the facility with which they can be employed, and their less destructive action.

Fifth. Before recognizing the dominant influence of intranasal conditions in determining hay fever attacks, it is essential to question the patient closely, and endeavor to discover if there be any other local

or systemic disorder present, which might render doubtful the accuracy of the diagnosis. Of course, if any such disease be found it must first be carefully treated, and until it is fully eliminated in this, or some other manner, as an efficient factor in causing hay fever attacks, we cannot properly estimate the direct power in this direction of the morbid intranasal conditions.

Sixth. In this view, that remarkable protean nervous disorder—central vasomotor disease—should not be overlooked, although our ability precisely to locate it is frequently insufficient. These nervous centres have played an important though exaggerated *rôle* in the physiological interpretation of diseased action during the past ten years or more, and no doubt, partly on this account, many persons are sceptical as regards their influence, whenever it is now alluded to. I am disposed to believe, however, that their control in this disease will always be notable in a considerable proportion of cases, although the extent to which it is exercised is not yet clearly and entirely appreciated in every instance. When, however, it is recognized as being present, it will usually be correct to state that, in these instances, mild topical applications to the nose for the purpose of aborting or preventing attacks of hay fever will prove almost useless. Even though this be true, there will still remain a few among these examples, in which cauterization by means of the galvano-cautery, will be curative where the previous means have proved inadequate. The full explanation of this fact is doubtless that the cautery reaches and destroys more thoroughly all the morbid tissues and thus abolishes receptivity through the nose, of irritation from numerous foreign substances which previously had acted as excitants of an impressionable nerve centre directly related to the olfactory organ.

Of course, when the excitant is purely a psychical condition of which the resultant, so to speak, in a physical way, is the temporary engorgement of the turbinated bodies which gives rise to the different rational symptoms of hay fever, all local medication is to a great extent delusive and unsatisfactory, and at best only palliative.

To sum up this brief paper in reference to hay fever (so-called), I wish to add that I had a single purpose before me in writing it, and that purpose was simply to prevent, if possible, the present current of medical opinion carrying us too far in a right direction, and making us regard every sufferer from hay fever as a case either for somewhat severe nasal operation or continued nasal treatment. Many there are amongst these unfortunates who have no specially sensitive areas to cauterize, no occlusions to destroy, no abnormal septa to cut away, no catarrh to treat. They are simply individuals who, unless evident pathological conditions betray the origin or source of far-removed nasal and other phenomena included in the term hay fever, are still for me obscure neurotics or neuropaths, or those who are *specially* influenced by pollen granules, or by *one* or *more* of a vast number of emotional or psychical influences, external irritants, or *atmospheric conditions*. Nor do I consider it a *retrograde movement* at this time to make such a statement, but rather the act of throwing called-for *weights* into one side of a balance to make *equipoise*, when almost all late observers have been contending in favor of a sound but, in my judgment, too exclusive theory, which is insufficient to explain all cases of hay fever satisfactorily.